

ACT/019/006

November 25, 1986

TO: FILE

FROM: R. Harden

RE: Bonding Estimate, Thornburg Memorial Mine, ACT/019/006,
Grand County, Utah

The Thornburg site originally consisted of approximated 17 acres of surface disturbance. During the first two weeks of November this year, reclamation of the site consisting of regrading and reshaping of waste dumps on the site was accomplished. Seeding of those areas reclaimed will be done in the next few months to ensure spring germination.

The disturbed area of the site has been effectively reduced to approximately 3.3 acres. A bonding estimate for the site has been provided on the following page to reflect the changes in site conditions. Earthwork and grading costs have been significantly reduced as a result of the reclamation work accomplished this fall. Revegetation costs for the entire 17 acres will remain in the bonding cost estimate for three growing seasons as required in the regulations.

Cotter Corporation is currently in the process of transferring the mine permit for the Thornburg Memorial Mine to Western States Resources. Western States Resources shall be required to post the \$6,600.00 estimated by the Division in order to effect the permit transfer.

cc: S. Linner
W. Hedberg

1010R

*** BONDING ESTIMATE - THORNBURG MINE ACT/019/006 - 11/86 ***

UNIT COST REFERENCE FOR BOND ESTIMATE:

JOB	COST /UNIT	MEANS #
MISC. DEMOLITION & REMOVAL	\$4.59 /YD3	0100

II. EQUIPMENT COSTS INCLUDING OPERATOR [BLUE BOOK EQPT. RATES; MEANS OPERATOR COSTS]:

EQUIPMENT	EQUIPMENT MONTHLY RATE	ADJ. RATE /HR	MAINT /HR	OPERATOR /HR	TOTAL COST/HR
DOZER CAT D7G	\$8,640.00	\$49.09 /HR	\$20.75 /HR	\$28.20	\$98.04
TRACTOR CASE 580D	\$1,060.00	\$6.02 /HR	\$4.60 /HR	\$28.20	\$38.82
COMMON LABORER				\$23.05	\$23.05

JOB	MATERIAL	EQUIPMENT	ACRES	QUANTITY	UNITS	PROD. UNITS	COST /UNIT	TOTAL COST
-----	----------	-----------	-------	----------	-------	-------------	------------	------------

III. SITE COST ESTIMATE

DEMOLITION AND CLEANUP:

DEMOLITION/PADS & STRUCTURES	DOZER		3 HRS	1		\$98.04 /HR	\$294.12
	LABORERS		16 HRS	1		\$23.05 /HR	\$368.80
WASTE REMOVAL			25 YD3	1		\$4.59 /YD3	\$114.75

SUBTOTAL DISMANTLING & CLEANUP -

\$777.67

EARTHWORK & GRADING:

	D7 DOZER		4 HRS	1		\$98.04 /HR	\$392.16
PORTAL CLOSURES	D7 DOZER		3 PORTALS	0.2 /HR		\$98.04 /HR	\$1,470.61
LABORERS			16 HRS	1		\$23.05 /HR	\$368.80

SUBTOTAL EARTHWORK & GRADING -

\$2,231.58

REVEGETATION:

SCARIFICATION	TRACTOR	3.30	3.30 AC	1 AC/HR		\$38.82 /HR	\$128.11
SEEDING		17.00	17.00 AC	1 AC/HR		\$23.05 /AC	\$391.85
SEED	SEED	17.00	17.00 AC	1		\$85.00 /AC	\$1,445.00

SUBTOTAL REVEGETATION -

\$1,964.97

TOTAL SITE COST ESTIMATE -

\$4,974.22

RECLAMATION MAINTENANCE AND MONITORING:

REPAIR RILLS & GULLIES	TRACTOR		4 HRS	1		\$38.82 /HR	\$155.29
REVEGETATION (20% OF TOTAL AREA)							
SEEDING		3.40	3.40 AC	1 AC/HR		\$23.05 /AC	\$78.37
SEED	SEED	3.40	3.40 AC	1		\$85.00 /AC	\$289.00

TOTAL MAINTENANCE -

\$522.66

SUBTOTAL -

\$5,496.88

10% CONTINGENCY AND ENGINEERING COSTS

\$549.69

SUBTOTAL IN 1986 DOLLARS

\$6,046.56

SUBTOTAL WITH ESCALATION @ 1.62% /YR FOR 5 YEARS (1991 DOLLARS) -

\$6,552.46

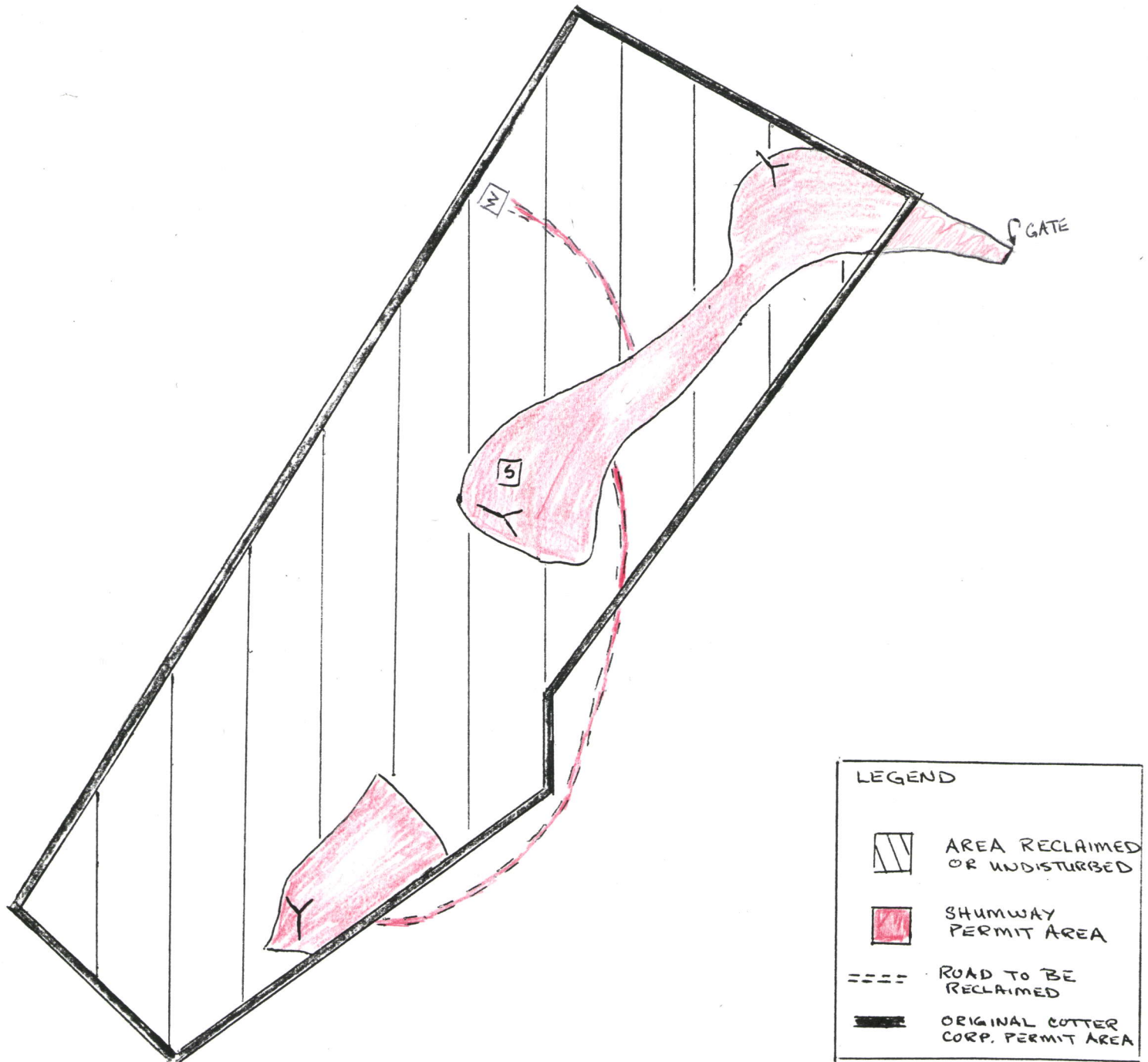
TOTAL BOND AMOUNT ESTIMATED TO THE NEAREST \$1,000 IN 1991\$ -

\$6,600

PERMIT AREA
THORNBURG MEMORIAL MINE
ACT / 019 / 006



TOTAL AREA OF SHUMWAY
PERMIT AREA = 3.3 ACRES



by F. FILAS 11/86

*** BONDING ESTIMATE - THORNBURG MINE ACT/019/006 - 11/86 ***

UNIT COST REFERENCE FOR BOND ESTIMATE:

JOB	COST /UNIT	MEANS #
MISC. DEMOLITION & REMOVAL	\$4.59 /YD3	0100

II. EQUIPMENT COSTS INCLUDING OPERATOR [BLUE BOOK EQPT. RATES; MEANS OPERATOR COSTS]:

EQUIPMENT	EQUIPMENT MONTHLY RATE	ADJ. RATE /HR	MAINT /HR	OPERATOR /HR	TOTAL COST/HR
DOZER CAT D7G	\$8,640.00	\$49.09 /HR	\$20.75 /HR	\$28.20	\$98.04
TRACTOR CASE 580D	\$1,060.00	\$6.02 /HR	\$4.60 /HR	\$28.20	\$38.82
COMMON LABORER				\$23.05	\$23.05

JOB	MATERIAL	EQUIPMENT	ACRES	QUANTITY	UNITS	PROD. UNITS	COST /UNIT	TOTAL COST
-----	----------	-----------	-------	----------	-------	-------------	------------	------------

III. SITE COST ESTIMATE

DEMOLITION AND CLEANUP:

DEMOLITION/PADS & STRUCTURES	DOZER		3 HRS	1		\$98.04 /HR	\$294.12
	LABORERS		16 HRS	1		\$23.05 /HR	\$368.80
WASTE REMOVAL			25 YD3	1		\$4.59 /YD3	\$114.75

SUBTOTAL DISMANTLING & CLEANUP - \$777.67

EARTHWORK & GRADING:	D7 DOZER		4 HRS	1		\$98.04 /HR	\$392.16
PORTAL CLOSURES	D7 DOZER		3 PORTALS	0.2 /HR		\$98.04 /HR	\$1,470.61
LABORERS			16 HRS	1		\$23.05 /HR	\$368.80

SUBTOTAL EARTHWORK & GRADING - \$2,231.58

REVEGETATION:

SCARIFICATION	TRACTOR	3.30	3.30 AC	1 AC/HR		\$38.82 /HR	\$128.11
SEEDING		17.00	17.00 AC	1 AC/HR		\$23.05 /AC	\$391.85
SEED	SEED	17.00	17.00 AC	1		\$85.00 /AC	\$1,445.00

SUBTOTAL REVEGETATION - \$1,964.97

TOTAL SITE COST ESTIMATE - \$4,974.22

RECLAMATION MAINTENANCE AND MONITORING:

REPAIR RILLS & GULLIES	TRACTOR		4 HRS	1		\$38.82 /HR	\$155.29
REVEGETATION (20% OF TOTAL AREA)							
SEEDING		3.40	3.40 AC	1 AC/HR		\$23.05 /AC	\$78.37
SEED	SEED	3.40	3.40 AC	1		\$85.00 /AC	\$289.00

TOTAL MAINTENANCE - \$522.66

SUBTOTAL - \$5,496.88

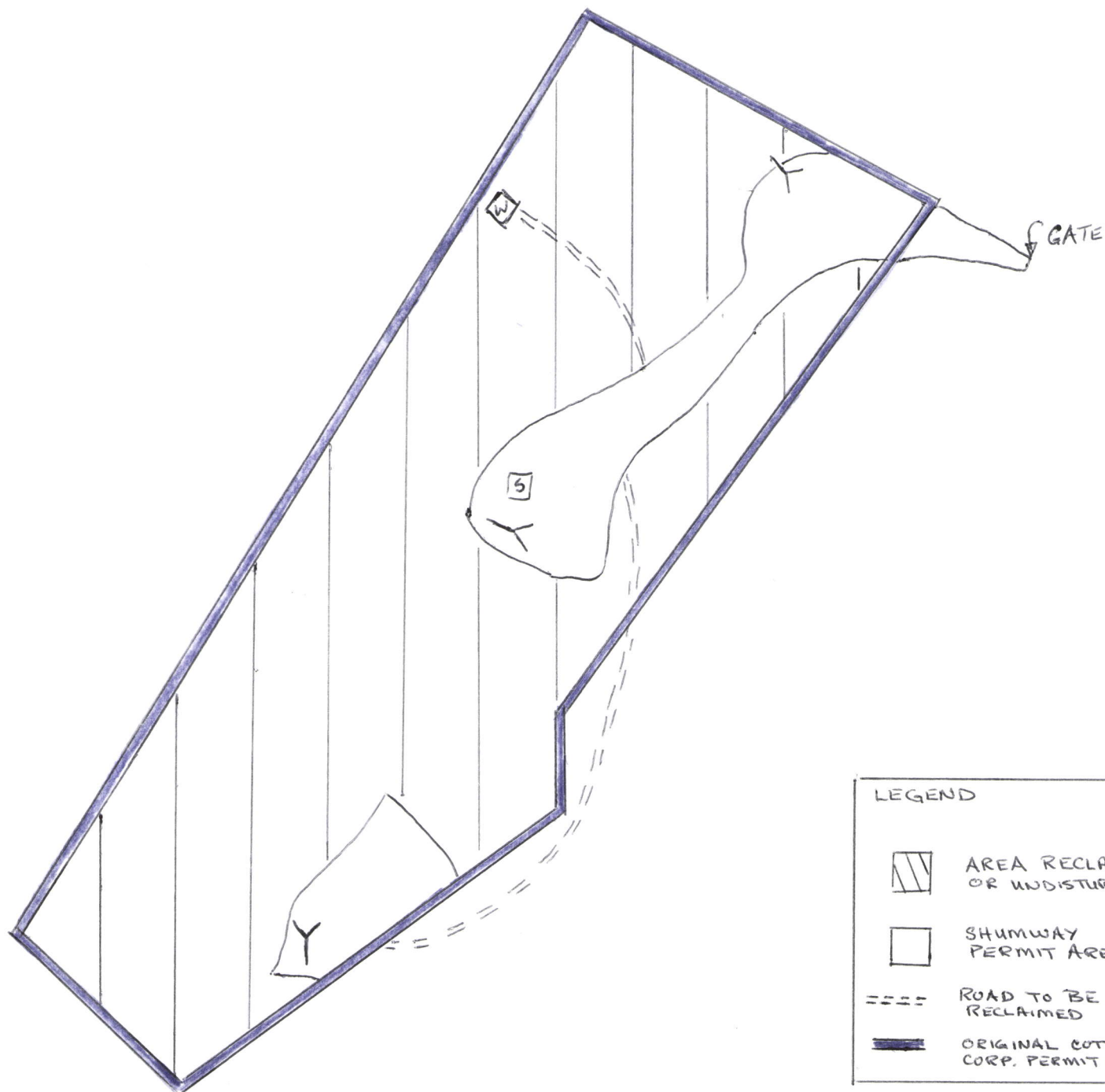
10% CONTINGENCY AND ENGINEERING COSTS \$549.69

SUBTOTAL IN 1986 DOLLARS \$6,046.56

SUBTOTAL WITH ESCALATION @ 1.62% /YR FOR 5 YEARS (1991 DOLLARS) - \$6,552.46

TOTAL BOND AMOUNT ESTIMATED TO THE NEAREST \$1,000 IN 1991\$ - \$6,600

PERMIT AREA
 THORNBURG MEMORIAL MINE
 ACT/019/006



LEGEND



AREA RECLAIMED
OR UNDISTURBED



SHUMWAY
PERMIT AREA



ROAD TO BE
RECLAIMED



ORIGINAL CUTTER
CORP. PERMIT AREA

by F. FILAS 11/86